REMARKS

Claim Status

Claims 29-30 and 35 have been objected to because they depend from a rejected claim. The Office Action indicates that these claims would be allowable if rewritten in independent form. Applicants appreciate this suggestion.

Claims 1-8 and 31 were cancelled previously. The pending claims are claims 9-30 and 32-41. No claims have been amended herein.

Interview Summary

Applicants thank the Examiner for the courtesy displayed during the telephone interview conducted with the undersigned on May 27, 2011. The undersigned presented argument as to why the claims are not obvious and focused on the Tanabe et al. reference (U.S. Pat. 5,044,93). No agreement was reached, but Applicants have found the discussion to be helpful.

35 U.S.C. § 103(a) Claim Rejections

Claims 9-11, 13-22, 24, 27-28, 32-34, and 36-41 stand rejected under 35 U.S.C. §103(a) as being unpatentable in view of Champlin (U.S. Pat. 3,048,383) and Tanabe et al. (U.S. Pat. 5,044,938).

Claim 12 is rejected under 35 U.S.C. §103(a) as being unpatentable over Champlin (U.S. Pat. 3,048,383) in view of Tanabe et al. (U.S. Pat. 5,044,938), and further in view of Leap (US *2003/0136019* A1).

Claim 23 is rejected under 35 U.S.C. §103(a) as being unpatentable over Champlin (U.S. Pat. 3,048,383) in view of Tanabe et al. (U. S. Pat. 5,044,938), and further in view of Hochstrasser et al. (U. S. Pat. 4,113,977).

Claims 25-26 are rejected under 35 U.S.C. §103(a) as being unpatentable over Champlin (U. S. Pat. 3,048,383) in view of Tanabe et al. (U.S. Pat. 5,044,938), and further in view of Melgaard (U. S. Pat. 5,263,265).

The Applicants disagree with the Examiner's conclusions. The claims are not rendered obvious by these references, either taken alone or in combination. The non-

obviousness of the claims is clear when the Tanabe disclosure in particular is correctly analyzed, as discussed below.

Discussion

The pending independent claims require regulation of a temperature of a gas stream to a desired temperature by controlling a fan means for regulating the temperature. In contrast thereto, Tanabe nowhere discloses regulation of the temperature of a gas stream at all, much less a regulation of a gas stream to a desired temperature using fan means. In fact, Tanabe et al. is not concerned with specifically controlling the temperature of the gas stream, but accepts the temperature produced by the burner and regulates the pressure accordingly to obtain the desired treatment result.

Generally, Tanabe is concerned with regulating a temperature of a material to be treated, in particular, a joining area thereof (see column 1, lines 9-13 of Tanabe). However, Tanabe is not concerned with regulating a temperature of a gas stream.

Regulating the temperature of a material is something completely different from regulating the temperature of a gas stream, as will be explained below. The temperature of a material to be treated in a dryer depends on several parameters. One of the parameters is the temperature of the gas stream used for drying, and another one of the parameters is the amount of gas blown on the material per unit of time. This amount of gas is dependent on the nozzle pressure, as with a higher nozzle pressure a higher amount of gas is blown onto the material. Consequently, for controlling a temperature of the material, one possibility is to regulate the temperature of the gas stream, and another possibility is to regulate the nozzle pressure. The regulation of the gas stream temperature by controlling the fan means according to the claimed invention relates to the first possibility. In contrast thereto, Tanabe is only concerned with the second possibility, i.e. the regulation of the nozzle pressure. In the disclosure of Tanabe, only this regulation is mentioned (see for example column 3, lines 52-56). Also the rotation speed of the fan in Tanabe is only controlled to obtain a certain nozzle pressure and not to obtain a certain desired gas stream temperature (see column 4, lines 41-44 of Tanabe).

It should be noted that for heating air, a burner is clearly used in Tanabe, while the fan is only described as generating a gas stream. This corresponds to the conventional setup also described in the second paragraph of the present application, i.e. a heater (burner) for heating and a fan for generating the gas stream. Nothing in Tanabe gives any hint to deviate from this conventional approach.

Furthermore, no regulation of the temperature of the burner or any other temperature regulation is disclosed anywhere in Tanabe (see column 3, lines 1-4). However, if a person skilled in the art wanted to introduce gas stream temperature regulation in Tanabe, he would naturally regulate the means used for heating the gas, namely the burner. Therefore, Tanabe actually teaches away from controlling a fan to regulate the temperature as claimed in the present application.

Also the passage cited by the Examiner at column 4, lines 31-40, merely discloses that the actual value of the nozzle pressure is converted to standard conditions (including a standard temperature), for which conversion an actual temperature may be used. Then, the converted actual value of a nozzle pressure is compared to a setting value to perform a regulation that a difference between both of the values may become zero, or, in other words, that the actual value of the nozzle pressure is regulated to the setting value of the nozzle pressure. Therefore again this passage only describes pressure regulation, but not temperature regulation of a gas stream.

In other words, while the regulation of Tanabe uses a temperature detector (see, for example, column 3, at line 12), the only use of this temperature detector is for determining the appropriate nozzle pressure as explained above, i.e. the appropriate volume of gas per time unit to be blown onto the material. No use of the temperature for any temperature regulation of a gas stream is disclosed.

As regards the argument under item 12 of the Office Action (specifically lines 8-13 of item 12), that in Tanabe the temperature of the gas stream is influenced when the fan speed is changed, first it is emphasized that no such change of temperature is described in Tanabe. Tanabe does not recognize at any point that the temperature may be changed by changing the fan rotational speed. Instead, the only means for heating the gas mentioned in Tanabe is the burner 4.

Even if it were accepted for argument's sake that changing the fan speed in Tanabe implies a temperature change of the gas stream, this still would not amount to any disclosure that this effect could be used for any temperature regulation of the gas stream. In particular, as no such effect is described in Tanabe, Tanabe cannot give a person skilled in the art any hint to base temperature regulation of a gas stream on controlling the fan, Therefore, also this passage does not give any hint at the claimed invention.

While there is indeed a physical relationship between gas pressure and temperature as suggested by the Examiner in item 12 of the Action (specifically lines 9-10 of item 12), at most this would lead to an implicit change of temperature when changing the fan speed, but not to an implicit disclosure of temperature regulation.

For temperature regulation of a gas stream, a desired or nominal temperature is needed. Then, an actual value of the temperature is obtained and the actual temperature adjusted in case of a deviation.

As Applicants have explained, Tanabe nowhere discloses a desired temperature of the gas stream or any attempt to reach such a desired temperature. Therefore, even if it is accepted that changing the fan speed may lead to a change in temperature, this does not imply that this effect is used for regulating the temperature of the gas stream to a desired value, in particular as no desired value of the gas stream is disclosed anywhere in Tanabe.

During the interview, the Examiner explained her argument more completely. As Applicants understand the argument, Tanabe et al. inherently involves and therefore discloses the use of a desired temperature in combination with the measured actual temperature to control the gas pressure, which amounts to temperature regulation. In other words, the argument is that, for Tanabe's device to work, it most involve both measured and desired gas stream temperatures to properly regulate pressure This explanation expands the comments made in the Office Action under item 12.[1] However, this is an incorrect interpretation of Tanabe et al.

[1] Applicants respectfully request clarification should the Applicants have misunderstood the explanation given by the Examiner during the interview.

For a feature of a claim to be inherently disclosed in a reference, the disclosure must necessarily include the feature in question. This is not the case here. In particular, the argument that, for the Tanabe device to work, it must involve both measured and desired gas stream temperatures to properly regulate pressure is not correct. In particular, there is no necessity in Tanabe to regulate a measured gas stream temperature to a desired gas stream temperature. Tanabe only describes pressure regulation. And further, as has been noted, the amount of gas blown onto a material to be treated may be changed by way of pressure regulation, high pressure generally corresponding to a higher amount and low pressure generally corresponding to a lower amount.

Therefore, if a gas stream temperature is relatively low, the pressure may be increased by blowing more of the gas onto a material to be treated, and when the gas stream temperature is relatively high, the pressure may be reduced by blowing less gas on the material to be treated, thus achieving the same drying effect and/or the same heating of the material to be treated in both cases, without any regulation of the gas stream temperature to a desired value whatsoever. Therefore, the gas stream pressure regulation disclosed in Tanabe is sufficient to produce the desired treatment of a material, without any need for gas stream temperature regulation.

As mentioned above, it is important to also appreciate that Tanabe clearly discloses a burner for heating gas, but nothing in connection with regulating the heat output of the burner; this fact supports Applicant's argument that Tanabe accepts the temperature of the gas stream produced by the burner and regulates the pressure accordingly to obtain the desired treatment result.

In summary, Tanabe does not show using the same fan means for generating a first and/or second gas stream in such a way that the temperature detected is regulated to a predefined value. The Examiner also acknowledges that Champlin does not show this feature. Therefore, a combination of Champlin and Tanabe cannot render this feature obvious.

Applicants have demonstrated why the Examiner's interpretation of the disclosure of Tanabe et al. is clearly incorrect. As a result, because all the rejections

are based on an application of the Tanabe reference to the claims, and the application of Tanabe to the claims is incorrect, all the rejections listed above must be withdrawn.

The Applicants therefore respectfully request the Examiner reconsider and withdraw the rejections based on 35 U.S.C. § 103(a).

Conclusion

The claims are not rendered obvious by the cited prior art. Reconsideration is requested.

Should the Examiner believe that a discussion of this matter would be helpful the Examiner is invited to telephone the undersigned at (312) 913-0001.

Respectfully submitted,

Dated: May 31, 2011

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